See descriptive report of additional work done in 1921

4158

C. & G. SURVEY
FEB 24 1921

Diag. Cht. No. 8102-3

Form 504

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

State: S. E. Alaska

11—5613

DESCRIPTIVE REPORT.

Hydro Sheet No. 4158

LOCALITY:

S. E. Alaska —
Dixon Entrance
and Clarence Strait

1920

CHIEF OF PARTY:

T. J. Maher

4158

DEPARTMENT OF COMMERCE

U.S.Coast and Geodetic Survey

Col. E. Lester Jones, Director.

DESCRIPTIVE REPORT

to accompany

Hydrographic Sheet

Southern Part of Clarence Strait

S. E. Alaska.

T. J. [illegible],
[illegible] Engineer,
Chief of Party.

DESCRIPTIVE REPORT

HYDROGRAPHY

Southern end of Clarence Strait

Limits of the work	Lat.	54° 38'	to Lat.	54° 53'
	Long.	131° 34'	" Long.	132° 01'

This work was done by the party on the Str. WENONAH during September and October, 1920. There are no unusual features connected with it. The work extends from the vicinity of Cape Chacon easterly to West Devil Rock and up the Strait to the vicinity of Kendrick Bay. From the Cape, north to the latitude of Mallard Bay, it joins the inshore launch hydrography at the hundred-fathom curve which is from one to one and three quarter miles offshore. The ship work progressed much faster than the launch work and north from Mallard Bay there is a gap between the shore and the limits of the ship hydrography, which in places is within one half mile of the beach, as close as was considered safe for the vessel. Uniform depths of about 200 fathoms were found in the main channel of Clarence Strait. Eastward of Long. 131° 39' the bottom became very irregular; the area bounded between parallels 54° 38' and 54° 41' and Long. 131° 34' and 131° 38' is very much so. West Devil Rock is situated in this locality in Lat. 54° 39.6 Long. 131° 36'. At half tides it bares and during rough weather breaks; on other occassions it breaks infrequently at high water. With fresh winds blowing, it is sometimes difficult to distinguish the break from the whitecaps on the waters in the vicinity. To the south soundings were taken at about 1/3 of a mile from the rock; on the west at about the same distance; on the east the closest approach to it was about one half mile; on the north two soundings (18 fms.) were obtained on a shoal area which runs in an E.N.E. and W.S.W. direction for about two thirds of a mile and which is distant from the rock about the same distance. While work should not be done around this rock with a ship during September and October, as I had the vessel there, the visibility and control being good, development work was contemplated. While the seas were rough, no breakers other than that on the rock showed. There were whitecaps but these covered the entire Strait and Dixon Entrance. However, when a 42 fathoms sounding was obtained, S.E. x S.3/4 of a mile from the rock, outside a line of deeper soundings and N. x E. distant eighth tenths of a mile from the rock a sounding of 18 fathoms was obtained outside a 50-fathom sounding, it was decided to give the rock

a clear berth. I disliked doing this as gaps of this character are likely to remain unsurveyed for years and render a chart incomplete. However, if the ship struck, the gap would remain anyway. The proper time to do this work is during May, June or July, as good weather usually prevails at some time during this period. From the soundings which were obtained, I infer that deeper water will be found between the rock and the shoal. There are several patches north from the rock where the bottom is very irregular; considerable time was spent on these but no dangers were found. In the vicinity of Lat. 54° 47' and northward, between Long. 131° 34' and 131° 38', the bottom shoaled rapidly and the sentry struck in the localities listed below and at the depths mentioned.

					Effective depths
Lat.	54° 48.1'	Long.	131° 34.2'	20 fms.	19 fms
	54° 48.7'		131° 36.7'	15 "	12
	54° 48.9'		131° 37.1'	20 "	13 (sounding)
	54° 49.05'		131° 37.1'	15 "	15
	54 49.5		131 37.3	20 "	17

This is at the edge of the bank surrounding Duke Island and the work joins the launch hydrography which has been done in that vicinity. The sounding lines of that hydrography are too widely spaced and the survey is inadequate as an examination of the dangers which are visible will show. Between Lat. 54° 49' and 54° 51' Long. 131° 40' and 131° 42', is a gap which should be filled in. The water, I believe, is deep and six soundings will cover it. It is not within other work but at the northern limit of the survey. Attention is called to this as on account of surrounding depths it might be considered unnecessary to make any soundings there. Although this section is closer to signals than the work to the southward, it was not until near the end of October that the ship reached this area and bad weather had set in; signals on Prince of Wales Island could not be seen; the only officers available for ship hydrography were Mr. Christopherson and myself and there were never sufficient men aboard to handle a landing party for the erection of signals on the Duke Island side. The wire drag work so delayed the party that it was necessary to use every available means to complete the launch hydrography up Clarence Strait; on this account hydrography frequently had to be discontinued, when, if, signals had been established on the Duke Island side, more could have been accomplished.

Tide Stations were maintained in Nichols Bay and Gardner Bay, Prince of Wales Island.

CURRENTS. - Nothing irregular was noticed in the current in Clarence Strait. Observations were not made but it is estimated that the current may reach a maximum of 2 knots and it appears to follow the axis of the Strait. In

the vicinity of West Devil Rock it is irregular in direction and the same condition exists along the Duke Island bank but this condition is normal to all shoal areas, either in, or abutting deep water.

MAGNETIC OBSERVATIONS. - Magnetic Observations along the shore gave unsatisfactory results; the ship was therefore swung east of Gardner Bay in the center of the Strait. A variation of 29° 24' E. was obtained. At some headings it was not possible to get the sun's bearing when the ship was on the heading called for in the form; curves were drawn to get accurate interpolated values; bearing curves were then drawn and from these, values for the computations were derived from which the above value was ascertained. All of this was done on forms different from the standard. Later the observations were turned over to an officer to be worked up in the manner called for by the office; slightly different values were obtained but that given above is the more accurate. The compass and azimuth instrument were tested before leaving San Francisco and the constant "A" is neglible.

ANCHORAGES. - Nichols Bay is the only anchorage in the vicinity which affords protection for medium sized vessels. Directions for entering and descriptions of the anchorages will be found in the Descriptive Report of the survey made of that Bay during the season. Gardner Bay is the next to the northward which may be considered as an anchorage. Vessels up to 400 tons may use it but care must be exercised in entering. The approaches to it are insufficiently surveyed and additional work should be done inside. Mallard Bay I would not consider safe and McLean Arm is too deep.

CONTROL. - There is adequate control for all surveys up this coast. All peaks on Prince of Wales Island suitable for hydrography have been located by triangulation cuts from Muzon, Nichols, Lazaro, Seal and points on the British Columbia side, to my personal knowledge, and there are undoubtedly cuts from other triangulation stations up the Strait. The location of Mt. Tamgas, as furnished in the Geographic Positions, should be verified; cuts from Lazaro and points across Clarence Strait and Revillagigedo Channel should be used for this. This information was not available while the work was in progress - so peaks were scaled off from the photostats of topographic sheets and verified by sextant cuts. In the appended list, the methods of locating the various signals are mentioned.

FUTURE WORK. - Wire dragging east of Stone Rock. A rock has been reported east of Stone Rock but deep water only was found. The accuracy of the report is doubted in Ketchikan, but as vessels bound around the Cape from Ketchikan pass close to the rock, when additional wire dragging is done in this locality, this area should be considered. The development

between West Rock and West Devil Rock should be close. Completion of the work around West Devil Rock and an investigation of the area around the 42-fathom spot to the southward should be done. Work south of Nunez Rocks and along the boundary from Tree Point light to Cape Muzon is necessary before the chart can be considered complete. Sa Hydrk. 2142 E.R.

PROMINENT LAND MARKS. - Cape Chacon is easily recognized from N.E. and S.W. quadrants, but its characteristic features are lost against the high hills inland when viewed from the S.E. quadrant. Pictures of the Cape as seen from several directions accompany the Seasons Report. There is an unwatched light on Cape Chacon. About 2-1/2 miles northerly from the Cape is a prominent land slide and a little less than 1/2 mile northerly from this is another slide not so prominent but distinguishable from it by a white quartz patch.

SOUNDING RECORDS. - Accompanying this sheet are four sounding records. Three containing soundings and the fourth, cuts to peaks. Attention is called to this - with one exception, there were never more than 2 observers aboard; therefore, any cut taken was after the position had been obtained and as there was always some drift to the ship the angle was incorrect, depending on the displacement of the ship; therefore, angles on the margin of sounding records give positions slightly inaccurate. However, when the ship went to Ketchikan, three observers were always on the bridge and the angles were taken simultaneously - these are recorded in the fourth volume.

F. Imaha

HYDROGRAPHIC SIGNALS

SHIP SHEET SOUTHERN PART

Of

CLARENCE STRAITS, S. E. ALASKA .

Hive - Scaled from 1908 photostat - checked by angles. See record book.

Dead - Determined by triangulation. Prominent dead tree on second cone of Cape Chacon.

Bluff - White wash - marked by 5/8" bolt set in cement. See 1920 plane table sheet.

Landslide #1- Determined by sextant angles. See ship's hydrographic books. Slide is large but one point on it was used. Cannot be described and should not be used by anyone who was not on this work.

Landslide #2- White quartz patch. Determined by sextant cuts.

Nik - Conical peak on south end of Prince of Wales Island. Apparently a double peak consisting of a nipple and dome. From some directions both present the same appearance.

Peak 2175 - Scaled from photostat 3281. Recommend that its position be computed from cuts taken from stations across the straits.

Peak 2525 - Scaled from photostat 3281. The recommendation made above holds good here.

Drick - Triangulation station.

Peak 2150 - Scaled from photostat 3281. Recommendation made above applies here.

Peak B - Scaled from photostat 3281, but a location determined from sextant cuts was used in preference. Position should be computed from triangulation cuts as it is a very useful signal.

Sharp Peak - Scaled from photostat 3281. Two peaks having the same appearance are situated in this locality.

West - Summit of west peak - scaled from photostat.

Bar - Barren Island lights should be located by triangulation. Can be seen from Nichols, Lazaro, Ken and perhaps from seal.

Rik - Summit of hill on south side of Mc Leans Arm scaled from photostat 3281 - but the position used was determined by plane table cuts (1920 sheet) and by sextant angles from the ship.

Statistics sheet No. C

Date, 1920.	Letter	Volume.	Positions	Soundings	Miles, statute	Vessel
September 15	A	1	14	14	9.3	Wenonah
" 16	B	1	45	45	30.7	"
" 17	C	1	69	69	36.0	"
" 18	D	1	60	60	36.6	"
" 20	E	1	40	40	27.0	"
" 21	F	1	12	12	9.0	"
" 22	G	1	16	16	11.2	"
" 23	H	1	66	65	37.0	"
" 24	J	1	49	49	33.9	"
" 24	J	2	2	2	1.1	"
" 30	K	2	37	37	27.0	"
October 2	L	2	46	46	31.5	"
" 4	M	2	44	44	36.0	"
" 5	N	2	63	38	28.0	"
" 6	P	2	58	58	27.0	"
" 7	Q	2	74	74	31.0	"
" 8	R	2	25	25	16.5	"
" 8	R	3	16	16	10.0	"
" 18	S	3	25	25	13.0	"
" 20	T	3	15	15	9.0	"
" 21	U	3	67	67	27.0	"
" 25	V	3	19	19	9.5	"
" 26	W	3	28	28	9.0	"
" 27	A	3	46	46	29.5	"
" 28	Y	3	71	71	28.0	"
" 29	Z	3	70	70	29.0	"
Total			1075	1074	592.6	

DIRECTOR
ADDRESS THE SUPERINTENDENT
U. S. COAST AND GEODETIC SURVEY

AND REFER TO NO. 41/VFB

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON March 3, 1921.

Division of Hydrography and Topography: (H)

Division of Charts:

Tidal reductions are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 4158

Dixon Entrance, Clarence Strait, Alaska.
T. J. Maher in 1920.

Plane of reference is
Mean lower low water, reading

6.2 ft. on tide staff at Ketchikan.*

* Allowance made for difference in tide at place of soundings.

Condition of records: Satisfactory.

G Rude

Chief, Division of Tides and Currents.

Field Record Section.

Report on Inking and Verifying H 4158

In vol. 1, p. 42 sentry struck at pos. 7 (one min. previous) but as length of towline is not given and exact position of striking not able to be determined, the sounding was left in pencil. (All sentry sounding lefts in pencil)

In the vicinity of Cape Chacon, as the lines became remote from land the control was weak and the positions did not closely agree with the verification. However, as the difference was more or less constant, and the sheet had shrunk, which would shift the positions toward shore, the field plotting was generally accepted.

On page 8, vol. 2, sentry position so indefinite as to be impracticable to plot.

#4 Sentry positions of 8 day shows sentry struck at 25 fms while a sounding gives 219 fms.

All sentry soundings have been left in pencil.

Frank M. Albert.

ADDRESS THE DIRECTOR
U.S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-MEM

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
WASHINGTON

SECTION OF FIELD RECORDS

REPORT ON HYDROGRAPHIC SHEET No. 4158.

Surveyed in 1920.

Chief of Party: T. J. Maher. Surveyed by T. J. Maher

Protracted by C. E. Christopherson. Soundings plotted by A. Baer.

Verified and inked by F. M. Albert and A. Baer.

1. The records conform to the requirements of the General Instructions.

2. The plan and character of development fulfill the requirements of the General Instructions.

3. The plan and extent of development satisfy the specific instructions, except that the sounding lines outside of the 100 fathom curve are only three-fifths mile apart instead of one mile apart as directed. If the instructions had been followed the area covered by the survey would have been 50% greater.

4. The sounding line crossings are adequate.

5. The data was sufficient to enable the usual depth curves to be drawn.

6. Only the protracting was done in the field.

7. The junction with adjacent hydrography is good.

8. For recommendations regarding further surveying within the area covered by this sheet see Capt. Maher's notes in the descriptive report of the sheet.

9. The sounding records show that the submarine sentry struck* six times along the eastern edge of the survey. In four cases the vessel had stopped for up and down casts and in three of these the towline was long enough to reach bottom. In these three instances at least it is probable that the sentry sank to the bottom and tripped. The sounding record should show clearly whether the depth at which the sentry was set when it tripped should be plotted as a sounding if there is no other indication of a shoal.

10. Angles were taken to locate the sentry while proceeding to and from

* Four of these soundings have been plotted on the sheet and circled in green. They should be charted until disproved by later surveys. A.L.S. 3/22/34

the working ground. The positions thus determined were given numbers identical with position numbers of the sounding lines. This dual system of numbers causes confusion. On September 30 and again on Oct. 2 the last entry each day is "Sentry struck" but in neither case was the position given.

11. As was the case with all the other hydrographic sheets turned in by this party, this survey was plotted on cheap roll paper instead of Whatman's.

12. The character of the surveying and protracting are good.

13. Reviewed by E. P. Ellis, September, 1921.

Form 537
11—3412

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4158

State . . . . . Alaska . . . . . .

General locality . . S. E. Alaska . . . . . .

Locality . . . . . Dixon Entrance and Clarence Strait

Chief of party . . . T. J. Maher, . H. & G. Engineer . . .

Surveyed by . . . . T. J. Maher, . H. & G. Engineer . . .

Date of survey . . . Sept. 15, to October 29, 1920. . .

Scale . . . . . 1:50000 . . . . . .

Soundings in . . . . . .

Plane of reference . M. L. L. W. . . . . .

Protracted by C. E. C. . . . Soundings in pencil by . . . . .

Inked by . . . . . Verified by . . . . . .

Records accompanying sheet (check those forwarded):

Des. report, 1 Tide books, — Marigrams, — Boat sheets,

1 Sounding books, 4 Wire-drag books, — Photographs.

Data from other sources affecting sheet . . . . . .
Tide books - Nichols Bay and Gardner Bay - accompany launch Hydrographic sheet of Cape Chacon and launch Hydrographic sheet of Clarence Strait.

Remarks:

See descriptive report of work done in 1920

4158

(Additional work)

4158
(Additional work)

Form 504
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

11—3613

State: S. E. Alaska

DESCRIPTIVE REPORT.

Hyd. Sheet No. 4158

LOCALITY:

Dixon Entrance to
Clarence Strait -
Kendrick Bay to
Moira Sound

1921

CHIEF OF PARTY:

J. N. Hawley

Resume' of Points at Which Sentry Tripped H 4208

Position No.	Vol	Page	Geographical Pos. Lat.	Geographical Pos. Long.	Sentry Set Fms	Adjacent Sdgs.	Remarks
41 BX	22	40	55° 38	133° 46'	15	57	
No number (detached)	23	29	55° 34	133° 44'	20	52	
59 C F	24	34	55° 27'	133° 57'	25	53	
68 CH	24	61	55° 27.5	133° 55'	20	51	
12 CM	26	12	55° 29'	133° 48'	15	21	
91 TT	10	56	55° 25'	134° 12'	20	51	School [illegible]
43 TT	10	48	55° 26'	134° 05'	20	66	
112 NN	10	45	55° 34.5	133° 41'	20	22	
57 RR	10	8	55° 34.5	133° 59'	20	52	
4 TT	10	45			20		On sentry-line run, does not fall on this spot.

COPY TO FIELD RECORDS.

January 16, 1922.

Division of Hydrography and Topography:

Division of Charts:

Tide reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 4156a

Locality: Clarence Strait, S. E. Alaska.

Chief of Party: J. H. Hawley in 1921.

Plane of reference is mean lower low water, reading
7.3 ft. on tide staff at Menefee Anchorage, Moira Sound.

Condition of records satisfactory except as checked below:

1. Locality and sublocality of survey omitted.
2. Month and day of month omitted.
3. Time meridian not given at beginning of day's work.
4. Time (whether A.M. or P.M.) not given at beginning of day's work.
5. Soundings (whether in feet or fathoms) not clearly shown in record.
6. Leadline correction entered in wrong column.
7. Field reductions entered in "Office" column.
8. Location of tide gauge not given at beginning of each day's work.
9. Leadline corrections not clearly stated.
10. Kind of sounding tube used not stated.
11. Sounding tube No. entered in column of "Soundings" instead of "Remarks".
12. Legibility of record could be improved.
13. Remarks.

Chief, Division of Tides and Currents.

DESCRIPTIVE REPORT

Hydrographic Sheet No. 4158

This report covers the work done in 1921, in accordance with instructions dated February 11, 1921, on hydrographic sheet No. 4158 which was begun in 1920. Blue ink was used for the 1920 work and red ink for the 1921 work. The new work continues from the northern limit of the old work, in the vicinity of Kendrick Bay, and extends to the northern limit of the sheet. It also includes development in the vicinity of West Devil Rock thereby completing the hydrographic work in the area covered by the sheet.

On the west side of the Strait the inshore launch work done in 1921 joins the ship work on this sheet from Lallard Bay to Moira Sound, and the new work on this sheet overlaps previous hydrography along it's eastern limit. Work to the northward in Clarence Strait is continued on hydrographic sheet "A" (field number) which joins the work on this sheet along the north limit of soundings.

All of the ship work was in deep water and requires no special comment. All soundings were up and down casts, using the steam machine and strand wire, the ship being stopped and a position obtained for each sounding.

The development in the vicinity of West Devil Rock was done by the steam launch Delta. The ship towed the launch to the vicinity of the work and stood by until it was completed. The rock was above water throughout the work. Generally deep water was found in the vicinity of the rock except to the northward where a sounding of 2-1/2 fathoms at M.L.L.W. was obtained on a sunken rock. This rock is 2/3 of a nutical mile 330 degrees (true) from West Devil Rock.

Respectfully submitted

J.H.Rawley,
Chief of Party.

STATISTICS SHEET NO. 4158

Work done in 1921

Date, 1921	Letter	Vol.	Positions	Soundings	Miles stat.	Vessels
May 10	A	1	44	44	24	Ship
" 11	B	1	46	46	27	"
" 12	C	1	50	50	36	"
" 13	D	1	29	29	16	"
July 1	E	1	16	16	11	"
Aug. 10	A	2	46	81	8	Launch
			231	266	122	

Note: Work done on August 10 was development of West Devil Rock.

Soundings in fathoms at M.L.L.W.

Tide gauge (automatic) in Moira Sound used for reduction of all work.

For additional tidal data see launch sheets.

List of Signals

Hydrographic Sheet No. 4158

Hydro. Name	Location, full name, etc.
Back	Distance and theodolite cut from Sta. Scott, 1921.
Pol	Triangulation station, 1921
Sun	" " 1912
Big	" " White Rock, 1912
Mo	" " Moira Rk. L.H., 1921
Cart	" " McCarty L.H., 1921
Huk	Topographic signal, sheet "O"
Hid	" " " "
Per	Hydrographic signal, p 2, Vol. 1, sounding record.

Note: The above list includes only the signals added to the sheet for the new work.

Report on Verifying and Inking Hyd. Sheet 4158
(Additional Work in 1921)

The work in 1921 extended the hydrography to the northern limit of the sheet and ran an additional line in the vicinity of West Devil Rock.

The work was done by the Str. Wenonah and the Launch Delta.

The records were good in the case of the former ship but in the latter no courses were recorded and but a single bottom characteristic noted. The protracting was good and time intervals were adhered to in plotting soundings. Each position was not numbered according to "General Instructions".

Frank M. Albert.

ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY

AND REFER TO No. 4-MEM

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

SECTION OF FIELD RECORDS

REPORT ON HYDROGRAPHIC SHEET No. 4158.(additional work).

Surveyed in 1921.

Chief of Party: J. H. Hawley Soundings plotted by W. G. Fielder

Surveyed by party of Str. WENONAH Verified and inked by F. H. Albert.

Protracted by E. L. Evans.

1. The records conform to the requirements of the General Instructions, except that in the development by the Launch Delta the compass courses and changes in direction of lines were entirely omitted. There were only two bottom characteristics given in the Delta's work.

2. The plan and character of development fulfill the requirements of the General Instructions.

3. The plan and extent of development satisfy the specific instructions.

4. The sounding line crossings are adequate, the apparent discrepancies in the vicinity of West Devil Rock being due, in all probability, to the very irregular bottom.

5. The development is sufficient to enable the usual depth curves to be drawn.

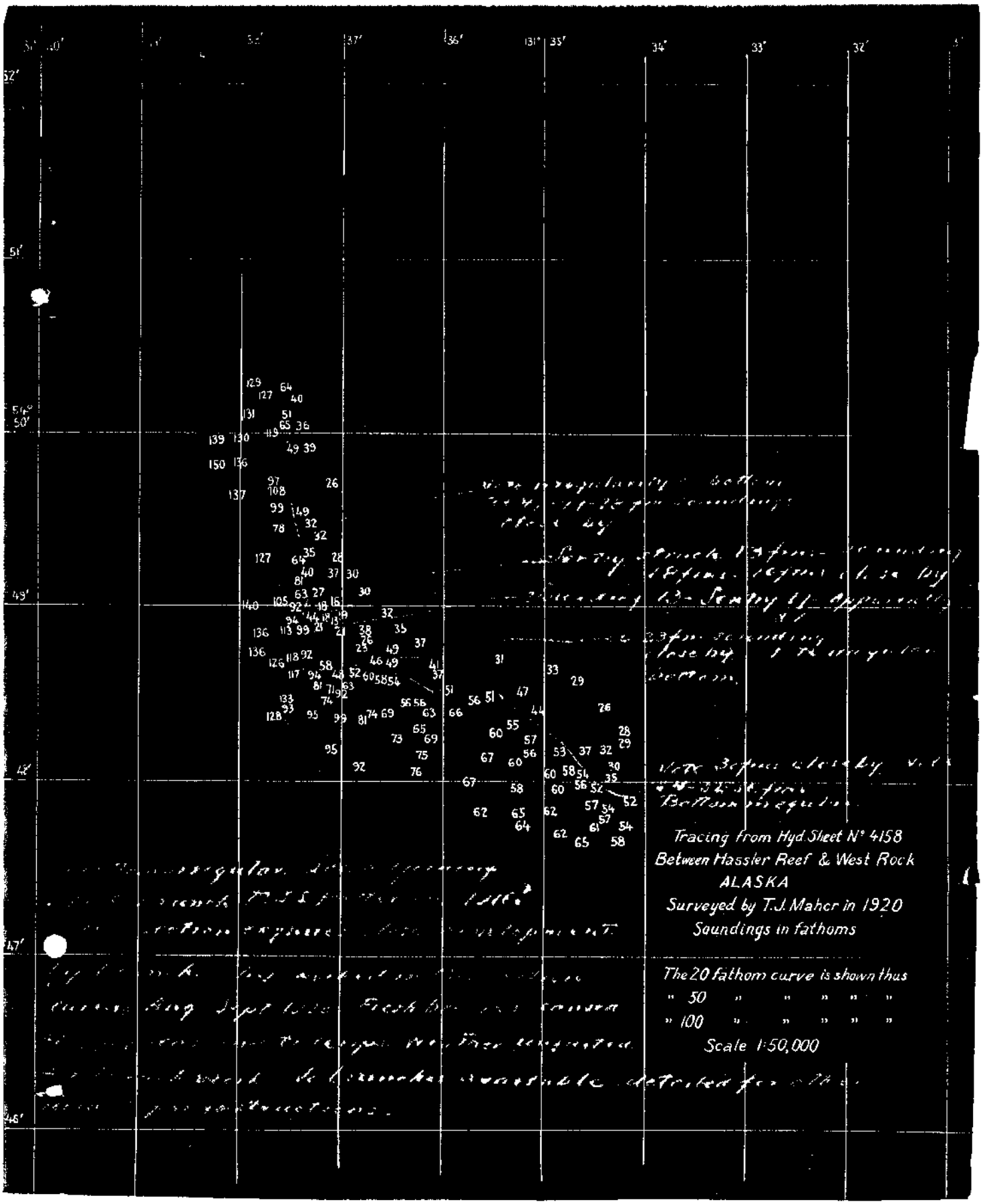
6. The field drafting was completed to the extent prescribed in General Instructions and the office draftsman did not have to do any of it over.

7. The junction with previous work to eastward is satisfactory.

8. The leadline development in vicinity of West Devil Rock is adequate, but a wire drag survey only will give assurance of the least water as there are numerous indications of shoaler water than was obtained.
   Also there are six spots on which the submarine sentry tripped in the 1920 work. So far no adequate development has been made on any of these places.

9. The character and scope of the surveying and field drafting are excellent.

10. Reviewed by E. P. Ellis, February, 1922.


Tracing from Hyd. Sheet N° 4158
Between Hassler Reef & West Rock
ALASKA
Surveyed by T.J. Maher in 1920
Soundings in fathoms
The 20 fathom curve is shown thus
" 50 " " " " " "
" 100 " " " " " "
Scale 1:50,000

Form 537

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The finished Hydrographic Sheet is to be accompanied by the following title sheet, filled in as completely as possible, when the sheet is forwarded to the Office.

U. S. Coast and Geodetic Survey.

Register No. 4158 ~~4158~~

State . . . S.E. Alaska . . . . . .

General locality . . Clarence Strait . . . . . .

Locality . Kendrick Bay to Moira Sound . . (Additional work)

Chief of party . . J.H.Hawley . . . . . .

Surveyed by . . . J.H.Hawley . . . . . .

Date of survey . . May to August, 1921 . . . . . .

Scale . . . . . 1 : 50,000 . . . . . .

Soundings in . . Fathoms . . . . . .

Plane of reference . . M.L.L.W. . . . . .

Protracted by E.L.Evans . Soundings in pencil by W.U.Fielder

Inked by . . . . . Verified by . . . . . .

Records accompanying sheet (check those forwarded):

Des. report, ... Tide books, ... Marigrams, 1 Boat sheets,

2 Sounding books, ... Wire-drag books, ... Photographs.

Boat sheet not received with smooth sheet and records Hem

Data from other sources affecting sheet . . . . . .

Remarks: This sheet was started in 1920 and completed in 1921. The above title applies only to the 1921 work which is shown by red position numbers, blue ink having been used for the 1920 work. The tidal records used for reducing this work accompany the inshore launch sheets.

9-28-60 - New chart 8084 - M. Rogers. — Hydro eastward of the east limit of H-8382 (1957) fully applied.